tion suggesting an acute coronary syndrome with impaired LV function but without coronary disease. It is associated with substantial recovery of LV ejection fraction, resolution of LV wall motion abnormalities and an excellent short-term prognosis.

1127-133 Clinical and Pathologic Characteristics of Dilated Cardiomyopathy in Dialysis Patients

Jiro Aoki, Yuji Ikari, Hiroyoshi Nakajima, Masaya Mori, Tokuichiro Sugimoto, Kazuhiro Hara, Mitsui Memorial Hospital, Tokyo, Japan

Background Some dialysis patients have impaired left ventricular (LV) function without coronary artery disease. The pathologic changes of these patients have not been well described. This study evaluated the clinical and pathologic characteristics of dialysis patients with dilated cardiomyopathy (DCM). **Methods** We performed LV endomyocardial biopsy on 40 dialysis patients with DCM. After LV biopsy, the patients were followed up for mean 2.3±1.9 years. **Results** The pathologic characteristics were severe myocyte hypertrophy (the mean myocyte diameter across the nucleus was 37.6±10.5 μm), myocyte disarray (30%), and extensive fibrosis (the mean percent area of left ventricular fibrosis was 22.3±18.4%). These pathologic characteristics resembled the dilated phase of hypertophic cardiomyopathy. Their two-year survival rate was 72%. A high percent area of LV fibrosis was the only significant predictor of cardiac death by multivariate analysis (p=0.03). The two-year event-free survival rate for cardiac death in patients with severe fibrosis (more than 30%) was 42%, while that for patients without severe fibrosis was 92%. **Conclusion** The pathologic characteristics of the heart in dialysis patients with DCM are severe myocyte hypertrophy occasionally with disarray and a high percent area of fibrosis. The prognosis of these patients was poor and the extent of LV fibrosis was a strong predictor of cardiac death.

1127-134 Noninvasive Determination of Central Venous Pressure With a Bedside Ultrasound Device

Kelley R. Branch, Deborah H. Kwon, John M. Nicklas, University of Michigan, Ann Arbor, MI, University of Washington, Seattle, WA

Background: In patients with heart failure, clinical signs may not accurately reflect hemodynamic abnormalities. To improve clinical assessment of central venous pressure (CVP), we used a bedside ultrasound device to measure internal jugular (IJ) distention.
Methods: Forty-five subjects referred for right heart catheterization underwent cross-sectional IJ imaging with a Site-Rite ultrasonic device (Dymax, Pittsburgh, PA). Biphasic pulsatile distention (BiP) of an IJ, corresponding to a and v venous waves, was examined in 36 patients. If present [(+) BiP], the maximal vertical height of the IJ fluid column was measured from the clavicle to where the BiP disappeared while sitting upright. CVP was measured directly by right heart catheterization and compared to the IJ ultrasound data.
Results: In patients with a measured CVP ≤7 mmHg, IJ BiP was not observed. In those with a CVP >7 mmHg, BiP was present in most, but not all patients. Sensitivity for CVP detection was 61% and specificity was 100%. The ultrasound-measured vertical IJ height was statistically related to CVP (p = 0.006), but the correlation was poor (R^2 = 0.41).

	CVP≤7 (n, %)	**CVP>7 (n, %)**
(+) BiP	0 (0%)	17 (61%)
(-) BiP	17 (100%)	11 (39%)
Total	*17*	*28*

Conclusions: The absence of IJ BiP distention by cross-sectional ultrasonography while sitting upright is a highly specific predictor of low CVP (≤ 7 mmHg). In patients with elevated CVP, ultrasound assessment of IJ vertical distention correlates poorly with measured CVP. This demonstrates a novel, non-invasive, and readily available method for estimation of right-sided filling pressures.

POSTER SESSION

1128 Elderly Cardiovascular Disease: Estimating Prognosis

Tuesday, March 09, 2004, 9:00 a.m.-11:00 a.m.
Morial Convention Center, Hall G
Presentation Hour: 10:00 a.m.-11:00 a.m.

1128-119 Coronary Flow Velocity Reserve and Asymmetric Dimethylarginine in Patients With Type 2 Diabetes Mellitus

Takayuki Kawata, Masao Daimon, Rei Hasegawa, Tomohiko Toyoda, Tai Sekine, Sachiko Honjyo, Kyouhei Yamamoto, Daigaku Uchida, Toshiharu Himi, Katsuya Yoshida, Issei Komuro, Chiba University, Chiba, Japan, Kimitsu Chuo Hospital, Chiba, Japan

Background: Endogenous nitric oxide synthase inhibitor, asymmetric dimethylarginine (ADMA) is elevated and coronary flow velocity reserve (CFVR) is attenuated in patients with diabetes mellitus. Although ADMA has been considered as a novel marker of atherosclerosis, no clinical report has yet examined the relation between ADMA and coronary microcirculation in diabetes mellitus. We aimed to assess the relation between serum levels of ADMA and coronary microcirculation in patients with type 2 diabetes mellitus, using CFVR measurements with noninvasive transthoracic Doppler echocardiography (TTDE). **Methods:** We studied 21 patients with type 2 diabetes mellitus (mean age 62±10 years; 12 men and 9 women, body mass index 23±4). Coronary flow velocities in the left anterior descending artery were recorded with TTDE at rest and during hyperemia induced by intravenous infusion of adenosine triphosphate. CFVR was calculated as the ratio of hyperemic to basal mean diastolic velocity. We analyzed relationship between CFVR and venous blood samples. **Results:** Obtained data were as follows; CFVR 2.78±0.56, Fasting blood sugar 171±37 mg/dl, HbA1c 7.6±1.0%, Total-cholesterol 198±42 mg/dl, Triglycerides 125±78 mg/dl, HDL-cholesterol 53±15 mg/dl, and ADMA 0.5±0.08 nmol/ml. Only serum ADMA level and CFVR had significant inverse correlation (r=-0.55, p<0.01). Moreover, multiple regression analysis showed serum ADMA level was independently associated with CFVR (β=-0.69, p<0.01). **Conclusions:** This result suggests that CFVR related to a serum level of ADMA. Measurement of ADMA is useful to speculate coronary microcirculation in patients with type 2 diabetes mellitus.

1128-120 Importance of an Oral Glucose Tolerance Test in Identifying High Prevalence of Dysglycemia in Individuals at High Cardiovascular Risk

Koon K. Teo, Salim Yusuf, Barbara Ramos, Feng Zhao, Lutz Hilbrich, Craig Anderson, Peter Sleight, The ONTARGET/TRANSCEND Investigators, McMaster University, Hamilton, ON, Canada

Background Diabetes mellitus (DM) is an important cardiovascular risk factor, but impaired glucose metabolism short of frank DM also carries excess risk. Dysglycemia comprises (a) DM - fasting plasma glucose level =/>7 mmol/L or 2-hour glucose level >11.1 mmol/L after a 75 gm glucose load during an oral glucose tolerance test (OGTT), (b) impaired glucose tolerance (IGT) - fasting plasma glucose < 7 mmol/L but 2 hour glucose level between 7.8 to 11.0 mmol/L during a routine OGTT, and (c) impaired fasting glucose (IFG) - between 6.1 and 6.9 mmol/L.
Methods In this study a 2-hour 75 gm glucose load OGTT was performed, at baseline, in consecutive patients who do not have a history of DM, enrolled into a large clinical trial. The TRANSCEND trial includes patients, 55 years or older, at high risk for cardiovascular events who are intolerant to ACE inhibitors, and who had been randomized to an angiotensin II receptor blocker, telmisartan or to placebo.
Results Of 1327 patients studied, 289 (21.8%) patients had a history of DM, an additional 121 (9.3%) patients were diagnosed to have DM during the routine baseline OGTT, 208 (15.7%) patients had IGT, 58 (4.4%) patients had IFG and 54 (4.1%) patients refused the OGTT. Thus, at least 52.2% of the 1327 subjects have dysglycemia. History alone identified less than half of these cases whereas a routine OGTT has been found useful in identifying a substantial additional number of these high risk middle-aged individuals who did not know that they had abnormal glucose metabolism.
Conclusion The prevalence of dysglycemia in high-risk middle-aged individuals is higher than generally believed and can only be identified with a routine OGTT. The identification of dysglycemia and management of these individuals by appropriate preventive measures should contribute to a reduction of their risks.

1128-121 Manganese Superoxide Dismutase Alanine/Valine Polymorphism Is Associated With Coronary Artery Disease

Hajime Fujimoto, Nobukazu Ishizaka, Minoru Ohno, Minoru Yamakado, Ryozo Nagai, University of Tokyo, Tokyo, Japan, Mitsui Memorial Hospital, Tokyo, Japan

Background: Oxidative stress plays an important role in atherogenesis. Manganese superoxide dismutase (MnSOD) is an antioxidative enzyme localized in the mitochondria. Today, two MnSOD genotypes are known; GTT (valine) to GCT (alanine) substitution in an amino acid codon in the signal peptide. This substitution is thought to alter the transport of MnSOD into the mitochondrion, and its efficacy in fighting oxidative stress. We investigated the association between MnSOD genotype and coronary artery disease (CAD). Methods and Results: Blood samples were collected from 616 healthy subjects and 442 CAD patients (those who had >75 percent diametric stenosis in their coronary arteries) diagnosed by coronary angiography. MnSOD genotype was analyzed by fluorescence-based allele-specific polymerase chain reaction and melting curve analysis (LightCycler). The valine allele frequency was higher in the CAD patients (0.89) than in the healthy subjects (0.84) (odds ratio=1.54, P=0.0006, Table). MnSOD polymorphism (alanine/alanine, alanine/valine, or valine/valine) was closely related with CAD (P=0.001 by chi-square analysis, Table), but had no association with other coronary risk factors. From multivariate logistic regression analysis, valine/valine genotype was shown to be a coronary risk factor independent of other risk factors (odds ratio=1.76, P=0.003). Conclusion: Valine allele is closely related to the susceptibility of CAD. The valine/valine genotype of MnSOD is a genetic risk factor for CAD.

Genotype	Healthy Subjects (616)	CAD Subjects (442)	P value
val/val, % (n)	69.8 (430)	79.8 (353)	0. 001 (chi-square analysis)
ala/val, % (n)	28.3 (174)	18.6 (82)	
ala/ala, % (n)	1.9 (12)	1.6 (7)	
Allele frequency of ala and val (ala / val)	0.16 / 0.84	0.11 / 0.89	0. 0006 (unpaired t-test)